



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 00-888-J (236/244))

1641  
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PATENT  
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In the Application of:

Sullenger et al.

Serial No.: 09/165,514

Filing Date: October 2, 1998

For: Alteration of Sequence of a Target  
Molecule

Examiner: Jeffrey Fredman

Group Art Unit: 1641

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

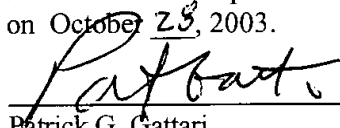
In regard to the above identified application:

1. We are transmitting herewith the attached papers for the above identified new patent application:

- ☒ (Resubmitted) Supplemental Information Disclosure Statement;
- ☒ (Resubmitted) Supplemental Information Disclosure Statement (IDS) PTO-1449 Form;
- ☒ Copies of IDS Citations for S/N 09/165,514 (Total 1 U.S. Patent Application Documents, 3 U.S. patents, and 22 other documents); and
- ☒ Return Receipt Postcard.

2. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 on October 23, 2003.

By :

  
Patrick G. Gattari  
Reg. No. 39,682

McDONNELL BOEHNEN HULBERT & BERGHOFF  
300 SOUTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
TELEPHONE (312) 913-0001  
FACSIMILE: (312) 913-0002



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 00-888-J (236/244))

In the Application of:	)	
	)	
Sullenger et al.	)	
	)	Examiner: Jeffrey Fredman
Serial No.: 09/165,514	)	
	)	Group Art Unit: 1634
Filing Date: October 2, 1998	)	
	)	
For: Alteration of Sequence of a Target	)	
Molecule by Ribozyme Catalyzed	)	
Trans-splicing	)	

(RESUBMITTED)  
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. Section 1.97 - 1.99, the Applicant wishes to make the references referred to on the attached PTO Form 1449 of record in the above-identified application. This (Resubmitted) Supplemental Information Disclosure Statement is a duplicate of the Supplemental Information Disclosure Statement filed on June 17, 2003. Applicant's representative noticed that, in the Final Office Action mailed September 9, 2003, the Examiner did not return the PTO Form 1449 that Applicants mailed with the Supplemental Information Disclosure Statement on June 17, 2003. Applicant's representative spoke with the Examiner on the telephone on October 20, 2003. The Examiner stated that the references had been lost in the Office and asked Applicant's representative to resubmit copies of the references. Therefore, this (Resubmitted) Supplemental Information Disclosure Statement is intended to comply with the Examiner's request.

The Supplemental Information Disclosure Statement filed June 17, 2003, included a check in the amount of \$180.00 for filing the Information Disclosure Statement. Accordingly, Applicant's submit that the appropriate fee has been paid. If the Office has a different opinion, please charge any additional fees or credit any overpayment to Deposit Account Number 13-2490. A duplicate of this sheet is enclosed.

Respectfully submitted,

**McDonnell Boehnen Hulbert & Berghoff**

By:

A handwritten signature in black ink, appearing to read "Patrick G. Gattari", is written over a horizontal line.

Patrick G. Gattari

Reg. No. 39,682

McDonnell Boehnen Hulbert & Berghoff  
300 South Wacker Drive, 32<sup>nd</sup> Floor  
Chicago, IL 60606  
Telephone: 312-913-0001  
Facsimile: 312-913-0002

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FORM PTO-1449  
Commerce (Rev. 2-32)U. S. Department of  
Patent and Trademark Office

Atty. Docket No.

Serial No.

00-888-J  
(236/244)

09/165,514

SUPPLEMENTAL  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use several Sheets is Necessary)

Applicant: Sullenger, et al.

Filing Date:  
October 2, 1998Group:  
1634

## U.S. PATENT APPLICATION DOCUMENTS

Examiner Initial		Document Number	Filing Date	Name	Class	Subclass	Publication Date if Appropriate
	1.	08/152,450	11/12/93	Sullenger et al.			

## U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	2.	5,225,337	07/06/93	Robertson			
	3.	5,389,514	02/15/95	Taylor			
	4.	5,869,254	02/09/99	Sullenger			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

5.	✓	Been and Cech, "One Binding Site Determines Sequence Specificity of Tetrahymena Pre-rRNA Self-Splicing, Trans-Splicing and RNA Enzyme Activity," <i>Cell</i> 47:207-216 (1986)
6.	✓	Cech, "Ribozyme Engineering," <i>Current Opinion in Structural Biology</i> 2:605-609 (1992)
7.	✓	Dzierzak et al., "Lineage-specific expression of a human $\beta$ -globin gene in murine bone marrow transplant recipients reconstituted with retrovirus-transduced stem cells," <i>Nature</i> , 331, 35-41 (1989)
8.	✓	Inoue et al., "Intermolecular Exon Ligation of the rRNA Precursor of Tetrahymena: Oligonucleotides Can Function as a 5' Exons," <i>Cell</i> 43:431-437 (1985)

EXAMINER

DATE CONSIDERED

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Sheet 2 of 3

<b>FORM PTO-1449</b> <b>Commerc (Rev. 2-32)</b>	<b>U. S. Department of Commerce</b> <b>Patent and Trademark Office</b>	<b>Atty. Dock t No.</b>	<b>Serial N .</b>
<b>SUPPLEMENTAL</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>		00-888-J (236/244)	09/165,514
(Use several Sheets is Necessary)		<b>Applicant: Sullenger, et al.</b>	
		<b>Filing Date:</b> October 2, 1998	<b>Group:</b> 1634



9.	✓	Konarska et al., "Trans Splicing of mRNA Precursors in Vitro," <i>Cell</i> 42:165-171 (1985)
10.	✓	Kruger et al., "Self-Splicing RNA: Autoexcision and Autocyclization of the Ribosomal RNA Intervening Sequence of Tetrahymena," <i>Cell</i> 31:147-157 (1982)
11.	✓	Malim, et al., "functional Dissection of the HIV-1 Rev Trans-Activator – Derivation of a Trans-Dominant Repressor of Rev Function," <i>Cell</i> , 58, 205-214 (1989)
12.	✓	Morgan and Anderson, "Human Gene Therapy," <i>Annu. Rev. Biochem.</i> 62:191-217 (1993)
13.	✓	Murphy and Cech, "Alteration of Substrate Specificity for the Endoribonucleolytic Cleavage of RNA by the Tetrahymena Ribozyme," <i>Proc. Natl. Acad. Sci. USA</i> 86:9218-9222 (1989)
14.	✓	Price and Cech, "Coupling of Tetrahymena Ribosomal RNA Splicing to β-Galactosidase Expression in <i>Escherichia coli</i> ," <i>Science</i> 228:719-722 (1985)
15.	✓	Price, et al., "Determinants of the 3' splice site for self-splicing of the Tetrahymena pre-rRNA," <i>Genes and Development</i> , 2, 1439-1447 (1988)
16.	✓	Sarver et al., "Ribozymes as Potential Anti-HIV-1 Therapeutic Agents" <i>Science</i> 247:1222-1225 (1990)
17.	✓	Smith et al., "Development of a lacZ Marked WEHI-3B D <sup>+</sup> Murine Leukemic Cell Line as an In-Vivo Model for Active Non-Lymphocytic Leukemia," <i>Leukemia</i> , 7, 310-317 (1993)
18.	✓	Solnick, "Trans Splicing of mRNA Precursors," <i>Cell</i> 42:157-164 (1985)
19.	✓	Sullenger et al., "Overexpression of TAR Sequences Renders Cells Resistant to Human Immunodeficiency Virus Replication," <i>Cell</i> 63:601-608 (1990)
20.	✓	Trono et al., "HIV-1 Gag Mutants Can Dominantly Interfere with the Replication of the Wild-Type Virus," <i>Cell</i> , 59, 113-120 (1989)
21.	✓	Tsuchihashi et al., "Protein Enhancement of Hammerhead Ribozyme Catalysis," <i>Science</i> 262:99-102 (1993)
22.	✓	van der Veen et al., "Excised Group II Introns in Yeast Mitochondria are Lariats and Can Be Formed by Self-splicing In Vitro," <i>Cell</i> 44:225-234 (1986)

<b>EXAMINER</b>	<b>DATE CONSIDERED</b>
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Commerce (Rev. 2-32)

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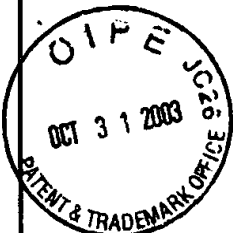
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**Applicant:** Sullenger, et al.

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**Group:**  
1634



23.	Waring et al., "The Tetrahymena rRNA Intron Self-Splices in E. Coli: In Vivo Evidence for the Importance of Key Base-Paired Regions of RNA for RNA Enzyme Function," <u>Cell</u> 40:371-380 (1985)
24.	Weber et al., "Antiviral properties of a dominant negative mutant of the herpes simplex virus type 1 regulatory protein ICP0," <u>Journal of General Virology</u> 73:2955-2961 (1992)
25.	Zaug and Cech, "The Intervening Sequence RNA of <i>Tetrahymena</i> Is a Enzyme," <u>Science</u> 231:470-475 (1986)
26.	Zaug et al., "The <i>Tetrahymena</i> Ribozyme Acts Like an RNA Restriction Endonuclease," <u>Nature</u> 324:429-433 (1986)

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